SEQUENCE LISTING

<110> OGI, Kazuhiro
ONDA, Haruo

<120> Novel Human Ependymin-like Protein

<130> 2417US1P

<150> 09/242,890
<151> 1999-02-25

<150> PCT/JP97/03194
<151> 1997-09-10

<160> 35

<170> PatentIn version 3.2

<210> 1
<211> 187
<212> PRT
<213> Homo sapiens

<400> 1

Ala Pro Arg Pro Cys Gln Ala Pro Gln Gln Trp Glu Gly Arg Gln Val
1 5 10 15

Met Tyr Gln Gln Ser Ser Gly Arg Asn Ser Arg Ala Leu Leu Ser Tyr
20 25 30

Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp Glu Arg Lys Ala Leu
35 40 45

Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu Leu Tyr Lys Asp Gly
50 55 60

Val Met Phe Gln Ile Asp Gln Ala Thr Lys Gln Cys Ser Lys Met Thr
65 70 75 80

Leu Thr Gln Pro Trp Asp Pro Leu Asp Ile Pro Gln Asn Ser Thr Phe
85 90 95

Glu Asp Gln Tyr Ser Ile Gly Gly Pro Gln Glu Gln Ile Thr Val Gln
100 105 110

Glu Trp Ser Asp Arg Lys Ser Ala Arg Ser Tyr Glu Thr Trp Ile Gly
115 120 125

Ile Tyr Thr Val Lys Asp Cys Tyr Pro Val Gln Glu Thr Phe Thr Ile
130 135 140

Asn Tyr Ser Val Ile Leu Ser Thr Arg Phe Phe Asp Ile Gln Leu Gly
145 150 155 160

Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser Thr Cys Gln Met Ala
165 170 175

Gln Leu Glu Lys Met Ser Glu Asp Cys Ser Trp
180 185

<210> 2
<211> 190
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<213> Rat

<400> 2

Ser Pro Gly Thr Pro Gln Pro Cys Gln Ala Pro Gln Gln Trp Glu Gly
1 5 10 15

Arg Gln Val Leu Tyr Gln Gln Ser Ser Gly His Asn Ser Arg Ala Leu
20 25 30

Val Ser Tyr Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp Glu Arg
35 40 45

Lys Ala Leu Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu Leu Tyr
50 55 60

Lys Asp Gly Val Met Phe Gln Ile Glu Gln Ala Thr Lys Leu Cys Ala
65 70 75 80

Lys Ile Pro Leu Ala Glu Pro Trp Asp Pro Leu Asp Ile Pro Gln Asn
85 90 95

Ser Thr Phe Glu Asp Gln Tyr Ser Ile Gly Gly Pro Gln Glu Gln Ile
100 105 110

Met Val Gln Glu Trp Ser Asp Arg Arg Thr Ala Arg Ser Tyr Glu Thr
115 120 125

Trp Ile Gly Val Tyr Thr Ala Lys Asp Cys Tyr Pro Val Gln Glu Thr

130 135 140

Phe Ile Arg Asn Tyr Thr Val Val Leu Ser Thr Arg Phe Phe Asp Val
145 150 155 160

Gln Leu Gly Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser Thr Cys
165 170 175

Gln Thr Ala Gln Pro Glu Lys Met Lys Glu Asn Cys Ser Leu
180 185 190

<210> 3
<211> 187
<212> PRT
<213> mouse

<400> 3

Thr Pro Gln Pro Cys Gln Ala Pro Gln Gln Trp Glu Gly Arg Gln Val
1 5 10 15

Leu Tyr Gln Gln Ser Ser Gly His Asn Asn Arg Ala Leu Val Ser Tyr
20 25 30

Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp Glu Arg Lys Ala Leu
35 40 45

Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu Leu Tyr Lys Glu Gly
50 55 60

Val Met Phe Gln Ile Glu Gln Ala Thr Lys Gln Cys Ala Lys Ile Pro
65 70 75 80

Leu Val Glu Ser Trp Asp Pro Leu Asp Ile Pro Gln Asn Ser Thr Phe
85 90 95

Glu Asp Gln Tyr Ser Ile Gly Gly Pro Gln Glu Gln Ile Leu Val Gln
100 105 110

Glu Trp Ser Asp Arg Arg Thr Ala Arg Ser Tyr Glu Thr Trp Ile Gly
115 120 125

Val Tyr Thr Ala Lys Asp Cys Tyr Pro Val Gln Glu Thr Phe Ile Arg
130 135 140

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Asn Tyr Thr Val Val Met Ser Thr Arg Phe Phe Asp Val Gln Leu Gly
145                 150                 155                 160

Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser Thr Cys Gln Ala Ala
                165                 170                 175

Gln Pro Glu Lys Met Ser Asp Gly Cys Ser Leu
            180                 185
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<210> 4
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<213> Mammalian

<400> 4

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Pro Cys Gln Ala Pro Gln Gln Trp Glu Gly Arg Gln Val
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<210> 5
<211> 32
<212> PRT
<213> mammalian

<400> 5

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Gln Ile Asp Gln Ala Thr Lys Gln Cys Ser Lys Met Thr Leu Thr Gln
1               5                   10                  15

Pro Trp Asp Pro Leu Asp Ile Pro Gln Asn Ser Thr Phe Glu Asp Gln
            20                  25                  30
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<210> 6
<211> 25
<212> PRT
<213> mammalian

<400> 6

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Ser Tyr Glu Thr Trp Ile Gly Ile Tyr Thr Val Lys Asp Cys Tyr Pro
1               5                   10                  15

Val Gln Glu Thr Phe Thr Ile Asn Tyr
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<210> 7
<211> 17
<212> PRT

<213> mammalian

<400> 7

Gln Leu Gly Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser Thr Cys
1 5 10 15

Gln

<210> 8
<211> 39
<212> PRT
<213> mammalian

<400> 8

Ser Tyr Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp Glu Arg Lys
1 5 10 15

Ala Leu Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu Leu Tyr Lys
20 25 30

Asp Gly Val Met Phe Gln Ile
35

<210> 9
<211> 26
<212> PRT
<213> mammalian

<400> 9

Pro Trp Asp Pro Leu Asp Ile Pro Gln Asn Ser Thr Phe Glu Asp Gln
1 5 10 15

Tyr Ser Ile Gly Gly Pro Gln Glu Gln Ile
20 25

<210> 10
<211> 200
<212> PRT
<213> human

<400> 10

Trp Thr Leu Cys Gly Leu Cys Ser Leu Gly Ala Val Gly Ala Pro Arg
1 5 10 15

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Pro Cys Gln Ala Pro Gln Gln Trp Glu Gly Arg Gln Val Met Tyr Gln
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Gln Ser Ser Gly Arg Asn Ser Arg Ala Leu Leu Ser Tyr Asp Gly Leu
        35                  40                  45

Asn Gln Arg Val Arg Val Leu Asp Glu Arg Lys Ala Leu Ile Pro Cys
    50                  55                  60

Lys Arg Leu Phe Glu Tyr Ile Leu Leu Tyr Lys Asp Gly Val Met Phe
65                  70                  75                  80

Gln Ile Asp Gln Ala Thr Lys Gln Cys Ser Lys Met Thr Leu Thr Gln
                85                  90                  95

Pro Trp Asp Pro Leu Asp Ile Pro Gln Asn Ser Thr Phe Glu Asp Gln
            100                 105                 110

Tyr Ser Ile Gly Gly Pro Gln Glu Gln Ile Thr Val Gln Glu Trp Ser
        115                 120                 125

Asp Arg Lys Ser Ala Arg Ser Tyr Glu Thr Trp Ile Gly Ile Tyr Thr
    130                 135                 140

Val Lys Asp Cys Tyr Pro Val Gln Glu Thr Phe Thr Ile Asn Tyr Ser
145                 150                 155                 160

Val Ile Leu Ser Thr Arg Phe Phe Asp Ile Gln Leu Gly Ile Lys Asp
                165                 170                 175

Pro Ser Val Phe Thr Pro Pro Ser Thr Cys Gln Met Ala Gln Leu Glu
            180                 185                 190

Lys Met Ser Glu Asp Cys Ser Trp
        195                 200
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<210> 11
<211> 224
<212> PRT
<213> human

<400> 11

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Met Pro Gly Arg Ala Pro Leu Arg Thr Val Pro Gly Ala Leu Gly Ala
1               5                   10                  15
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Trp Leu Leu Gly Gly Leu Trp Ala Trp Thr Leu Cys Gly Leu Cys Ser
            20                  25                  30

Leu Gly Ala Val Gly Ala Pro Arg Pro Cys Gln Ala Pro Gln Gln Trp
        35                  40                  45

Glu Gly Arg Gln Val Met Tyr Gln Gln Ser Ser Gly Arg Asn Ser Arg
    50                  55                  60

Ala Leu Leu Ser Tyr Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp
65                  70                  75                  80

Glu Arg Lys Ala Leu Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu
                85                  90                  95

Leu Tyr Lys Asp Gly Val Met Phe Gln Ile Asp Gln Ala Thr Lys Gln
            100                 105                 110

Cys Ser Lys Met Thr Leu Thr Gln Pro Trp Asp Pro Leu Asp Ile Pro
        115                 120                 125

Gln Asn Ser Thr Phe Glu Asp Gln Tyr Ser Ile Gly Gly Pro Gln Glu
    130                 135                 140

Gln Ile Thr Val Gln Glu Trp Ser Asp Arg Lys Ser Ala Arg Ser Tyr
145                 150                 155                 160

Glu Thr Trp Ile Gly Ile Tyr Thr Val Lys Asp Cys Tyr Pro Val Gln
                165                 170                 175

Glu Thr Phe Thr Ile Asn Tyr Ser Val Ile Leu Ser Thr Arg Phe Phe
            180                 185                 190

Asp Ile Gln Leu Gly Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser
        195                 200                 205

Thr Cys Gln Met Ala Gln Leu Glu Lys Met Ser Glu Asp Cys Ser Trp
    210                 215                 220
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<210> 12
<211> 224
<212> PRT

<213> Rat

<400> 12

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Met Leu Thr Arg Ala Pro Arg Arg Leu Val Gln Gly Pro Arg Glu Thr
1               5                  10                  15

Trp Leu Leu Gly Gly Leu Trp Val Trp Ile Leu Cys Gly Leu Gly Met
            20                  25                  30

Ala Gly Ser Pro Gly Thr Pro Gln Pro Cys Gln Ala Pro Gln Gln Trp
        35                  40                  45

Glu Gly Arg Gln Val Leu Tyr Gln Gln Ser Ser Gly His Asn Ser Arg
    50                  55                  60

Ala Leu Val Ser Tyr Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp
65                  70                  75                  80

Glu Arg Lys Ala Leu Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu
                85                  90                  95

Leu Tyr Lys Asp Gly Val Met Phe Gln Ile Glu Gln Ala Thr Lys Leu
            100                 105                 110

Cys Ala Lys Ile Pro Leu Ala Glu Pro Trp Asp Pro Leu Asp Ile Pro
        115                 120                 125

Gln Asn Ser Thr Phe Glu Asp Gln Tyr Ser Ile Gly Gly Pro Gln Glu
    130                 135                 140

Gln Ile Met Val Gln Glu Trp Ser Asp Arg Arg Thr Ala Arg Ser Tyr
145                 150                 155                 160

Glu Thr Trp Ile Gly Val Tyr Thr Ala Lys Asp Cys Tyr Pro Val Gln
                165                 170                 175

Glu Thr Phe Ile Arg Asn Tyr Thr Val Val Leu Ser Thr Arg Phe Phe
            180                 185                 190

Asp Val Gln Leu Gly Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser
        195                 200                 205

Thr Cys Gln Thr Ala Gln Pro Glu Lys Met Lys Glu Asn Cys Ser Leu
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210 215 220

<210> 13
<211> 224
<212> PRT
<213> Mouse

<400> 13

Met Pro Ala Arg Ala Pro Arg Arg Leu Val Gln Gly Pro Arg Gly Thr
1 5 10 15

Trp Leu Leu Gly Ser Leu Trp Val Trp Val Leu Cys Gly Leu Gly Met
20 25 30

Ala Gly Ser Leu Gly Thr Pro Gln Pro Cys Gln Ala Pro Gln Gln Trp
35 40 45

Glu Gly Arg Gln Val Leu Tyr Gln Gln Ser Ser Gly His Asn Asn Arg
50 55 60

Ala Leu Val Ser Tyr Asp Gly Leu Asn Gln Arg Val Arg Val Leu Asp
65 70 75 80

Glu Arg Lys Ala Leu Ile Pro Cys Lys Arg Leu Phe Glu Tyr Ile Leu
85 90 95

Leu Tyr Lys Glu Gly Val Met Phe Gln Ile Glu Gln Ala Thr Lys Gln
100 105 110

Cys Ala Lys Ile Pro Leu Val Glu Ser Trp Asp Pro Leu Asp Ile Pro
115 120 125

Gln Asn Ser Thr Phe Glu Asp Gln Tyr Ser Ile Gly Gly Pro Gln Glu
130 135 140

Gln Ile Leu Val Gln Glu Trp Ser Asp Arg Arg Thr Ala Arg Ser Tyr
145 150 155 160

Glu Thr Trp Ile Gly Val Tyr Thr Ala Lys Asp Cys Tyr Pro Val Gln
165 170 175

Glu Thr Phe Ile Arg Asn Tyr Thr Val Val Met Ser Thr Arg Phe Phe
180 185 190

```
Asp Val Gln Leu Gly Ile Lys Asp Pro Ser Val Phe Thr Pro Pro Ser
        195                 200                 205

Thr Cys Gln Ala Ala Gln Pro Glu Lys Met Ser Asp Gly Cys Ser Leu
    210                 215                 220
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<210> 14
<211> 37
<212> PRT
<213> human

<400> 14

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Met Pro Gly Arg Ala Pro Leu Arg Thr Val Pro Gly Ala Leu Gly Ala
1               5                   10                  15

Trp Leu Leu Gly Gly Leu Trp Ala Trp Thr Leu Cys Gly Leu Cys Ser
            20                  25                  30

Leu Gly Ala Val Gly
        35
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<210> 15
<211> 24
<212> PRT
<213> Human

<400> 15

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Met Pro Gly Arg Ala Pro Leu Arg Thr Val Pro Gly Ala Leu Gly Ala
1               5                   10                  15

Trp Leu Leu Gly Gly Leu Trp Ala
            20
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<210> 16
<211> 34
<212> PRT
<213> Rat

<400> 16

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Met Leu Thr Arg Ala Pro Arg Arg Leu Val Gln Gly Pro Arg Glu Thr
1               5                   10                  15

Trp Leu Leu Gly Gly Leu Trp Val Trp Ile Leu Cys Gly Leu Gly Met
            20                  25                  30
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Ala Gly

<210> 17
<211> 37
<212> PRT
<213> Mouse

<400> 17

Met Pro Ala Arg Ala Pro Arg Arg Leu Val Gln Gly Pro Arg Gly Thr
1 5 10 15

Trp Leu Leu Gly Ser Leu Trp Val Trp Val Leu Cys Gly Leu Gly Met
20 25 30

Ala Gly Ser Leu Gly
35

<210> 18
<211> 561
<212> DNA
<213> Human

<400> 18
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gtgctggacg agaggaaggc gctgatcccc tgcaagagat tatttgaata tattttgctg 180

tataaggatg gagtgatgtt tcagattgac caagccacca agcagtgctc aaagatgacc 240

ctgacacagc cctgggatcc tcttgacatt cctcaaaact ccacctttga agaccagtac 300

tccatcgggg ggcctcagga gcagatcacc gtccaggagt ggtcggacag aaagtcagct 360

agatcctatg aaacctggat tggcatctat acagtcaagg attgctatcc tgtccaggaa 420

acctttacca taaactacag tgtgatattg tctacgcggt tttttgacat ccagctgggt 480

attaaagacc cctcggtgtt taccctcca agcacgtgcc agatggccca actggagaag 540

atgagcgaag actgctcctg g 561

<210> 19
<211> 570
<212> DNA
<213> Rat

<400> 19

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cgcgtgcggg tgctggacga aaggaaggcg ctgatcccct gcaagagatt atttgaatac 180

attttactct ataaggatgg agtgatgttt cagattgaac aagccaccaa actgtgtgca 240

aagataccct tggcagaacc ctgggatcct ctcgacattc cccagaattc tacctttgaa 300

gatcagtact ctatcggagg gcctcaggag cagatcatgg tccaggaatg gtctgacagg 360

aggacagcca gatcctatga aacctggatt ggcgtttata cagccaagga ttgctacccg 420

gtccaggaga ccttcattag gaactacact gtggtcctgt ccactcggtt ctttgatgtg 480

cagttgggca ttaaagaccc ctctgtgttc accccaccaa gcacgtgcca gacagcacag 540

ccagagaaga tgaaagagaa ctgctccctg 570

<210> 20
<211> 561
<212> DNA
<213> Mouse

<400> 20
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gtgctggacg agaggaaagc gctgatcccc tgcaagagat tatttgaata cattttactc 180

tataaggagg gagtgatgtt tcagattgaa caagccacca aacagtgtgc aaagatcccc 240

ttggtggaat cctgggatcc tctggacatt ccccagaatt ctacctttga agatcagtac 300

tccatcggag ggcctcagga gcagatcctg gtccaggagt ggtctgacag aagaacagca 360

agatcctatg aaacttggat cggcgtttat acagccaagg attgttatcc ggtccaggag 420

accttcatca ggaactacac tgtggtcatg tccacgcggt tctttgatgt gcagctaggc 480

attaaggacc cctctgtgtt caccccacca agcacatgcc aggcagcgca gccagagaag 540

atgagtgacg gctgctcctt g 561

<210> 21
<211> 39
<212> DNA
<213> mammalian

<400> 21
ccgtgccagg cgccgcagca gtgggagggg cgccaggtt 39

<210> 22
<211> 96
<212> DNA
<213> mammalian

<400> 22
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cttgacattc ctcaaaactc cacctttgaa gaccag 96

<210> 23
<211> 75
<212> DNA
<213> mammalian

<400> 23
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tttaccataa actac 75

<210> 24
<211> 51
<212> DNA
<213> mammalian

<400> 24
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<210> 25
<211> 117
<212> DNA
<213> mammalian

<400> 25
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tgcaagagat tatttgaata tattttgctg tataaggatg gagtgatgtt tcagatt 117

<210> 26
<211> 78
<212> DNA
<213> mammalian

<400> 26
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gggcctcagg agcagatc 78

<210> 27
<211> 600
<212> DNA
<213> human

<400> 27
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gccctgctct cctacgacgg gctcaaccag cgcgtgcggg tgctggacga gaggaaggcg 180

ctgatccccct gcaagagatt atttgaatat attttgctgt ataaggatgg agtgatgttt 240

cagattgacc aagccaccaa gcagtgctca aagatgaccc tgacacagcc ctgggatcct 300

cttgacattc ctcaaaactc caccttttgaa gaccagtact ccatcggggg gcctcaggag 360

cagatcaccg tccaggagtg gtcggacaga aagtcagcta gatcctatga aacctggatt 420

ggcatctata cagtcaagga ttgctatcct gtccaggaaa cctttaccat aaactacagt 480

gtgatattgt ctacgcggtt ttttgacatc cagctgggta ttaaagaccc ctcggtgttt 540

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<210> 28
<211> 672
<212> DNA
<213> Human

<400> 28
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ccgtgccagg cgccgcagca gtgggagggg cgccaggtta tgtaccagca aagtagcggg 180

cgcaacagcc gcgccctgct ctcctacgac gggctcaacc agcgcgtgcg ggtgctggac 240

gagaggaagg cgctgatccc ctgcaagaga ttatttgaat atattttgct gtataaggat 300

ggagtgatgt ttcagattga ccaagccacc aagcagtgct caaagatgac cctgacacag 360

ccctgggatc ctcttgacat tcctcaaaac tccacctttg aagaccagta ctccatcggg 420

gggcctcagg agcagatcac cgtccaggag tggtcggaca gaaagtcagc tagatcctat 480

gaaacctgga ttggcatcta tacagtcaag gattgctatc ctgtccagga aacctttacc 540

ataaactaca gtgtgatatt gtctacgcgg ttttttgaca tccagctggg tattaaagac 600

ccctcggtgt ttaccctcc aagcacgtgc cagatggccc aactggagaa gatgagcgaa 660

gactgctcct gg 672

<210> 29
<211> 672
<212> DNA

<213> Rat

<400> 29
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ggcctctggg tctggatatt gtgcggcctg gggatggcgg gctccccggg aaccccgcag 120

ccatgccagg cgccccagca gtgggaggga cgtcaggttc tgtaccagca gagcagcggg 180

cacaacagcc gcgccctggt gtcctacgat ggtctcaacc agcgcgtgcg ggtgctggac 240

gaaaggaagg cgctgatccc ctgcaagaga ttatttgaat acattttact ctataaggat 300

ggagtgatgt ttcagattga acaagccacc aaactgtgtg caaagatacc cttggcagaa 360

ccctgggatc ctctcgacat tccccagaat tctacctttg aagatcagta ctctatcgga 420

gggcctcagg agcagatcat ggtccaggaa tggtctgaca ggaggacagc cagatcctat 480

gaaacctgga ttggcgttta tacagccaag gattgctacc cggtccagga gaccttcatt 540

aggaactaca ctgtggtcct gtccactcgg ttctttgatg tgcagttggg cattaaagac 600

ccctctgtgt tcaccccacc aagcacgtgc cagacagcac agccagagaa gatgaaagag 660

aactgctccc tg 672

<210> 30
<211> 672
<212> DNA
<213> Mouse

<400> 30
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agcctctggg tctgggtgct gtgcggcctg gggatggcgg gctccctggg aaccccacag 120

ccatgccagg caccccagca gtgggaggga cgccaggttc tgtaccagca gagcagcggg 180

cacaacaacc gcgccctggt gtcctacgat ggtctcaacc agcgcgtgcg ggtgctggac 240

gagaggaaag cgctgatccc ctgcaagaga ttatttgaat acattttact ctataaggag 300

ggagtgatgt ttcagattga acaagccacc aaacagtgtg caaagatccc cttggtggaa 360

tcctgggatc ctctggacat tccccagaat tctacctttg aagatcagta ctccatcgga 420

gggcctcagg agcagatcct ggtccaggag tggtctgaca gaagaacagc aagatcctat 480

gaaacttgga tcggcgttta tacagccaag gattgttatc cggtccagga gaccttcatc 540

aggaactaca ctgtggtcat gtccacgcgg ttctttgatg tgcagctagg cattaaggac 600

ccctctgtgt tcaccccacc aagcacatgc caggcagcgc agccagagaa gatgagtgac 660

ggctgctcct tg 672

<210> 31
<211> 111
<212> DNA
<213> human

<400> 31
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<210> 32
<211> 72
<212> DNA
<213> human

<400> 32
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ggcctctggg cc 72

<210> 33
<211> 102
<212> DNA
<213> Rat

<400> 33
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ggcctctggg tctggatatt gtgcggcctg gggatggcgg gc 102

<210> 34
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agcctctggg tctgggtgct gtgcggcctg gggatggcgg gctccctggg a 111

<210> 35
<211> 21
<212> DNA
<213> artificial

<220>
<223> DNA probe sequence

<400> 35
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